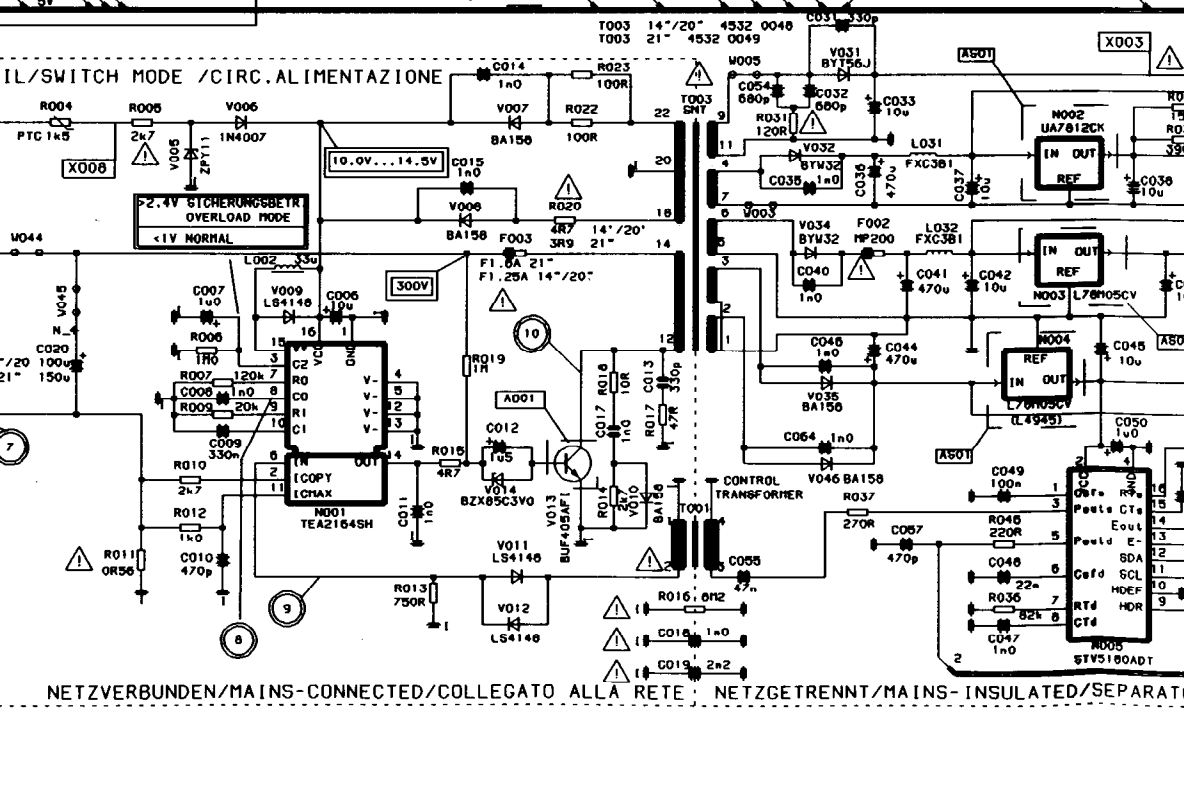
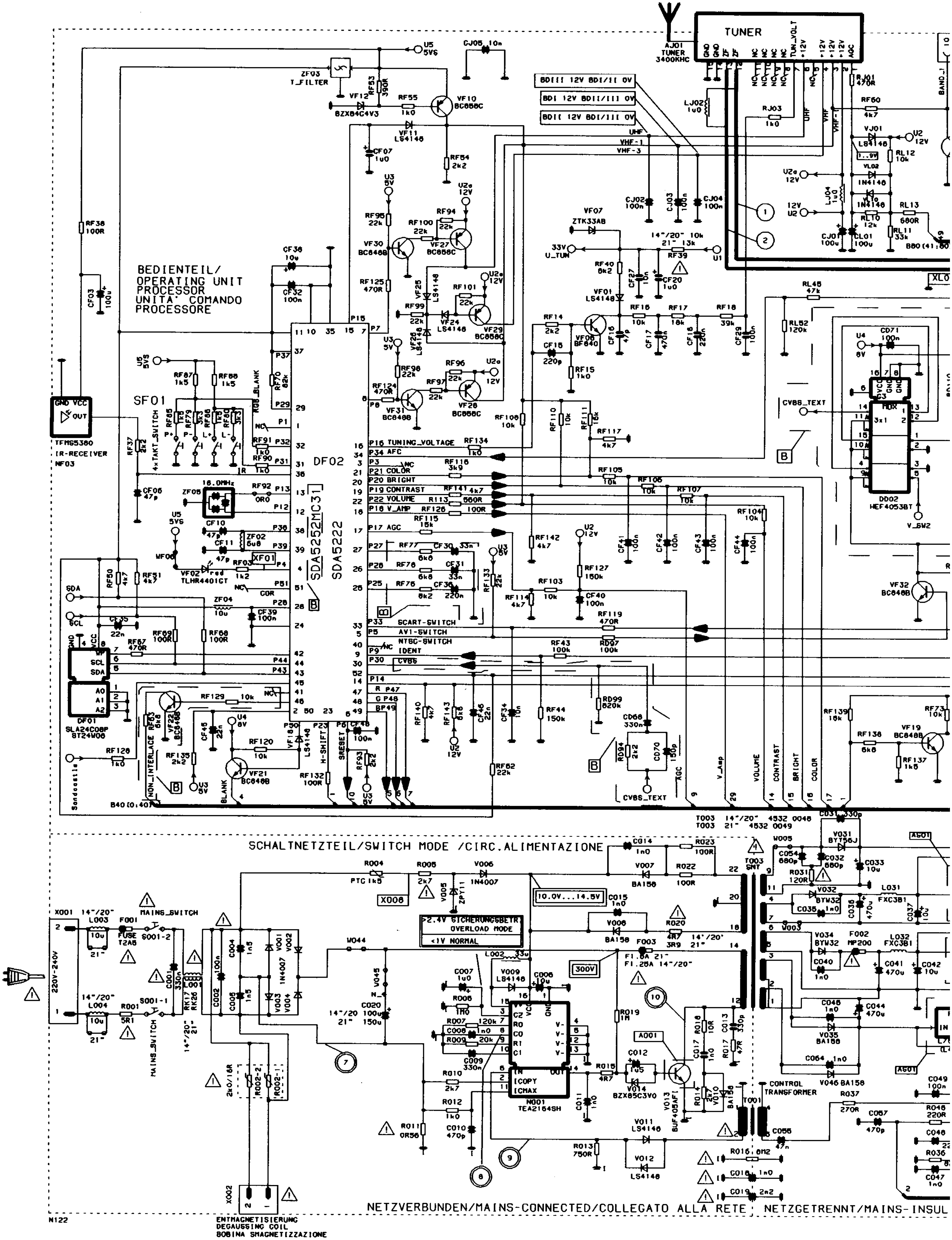
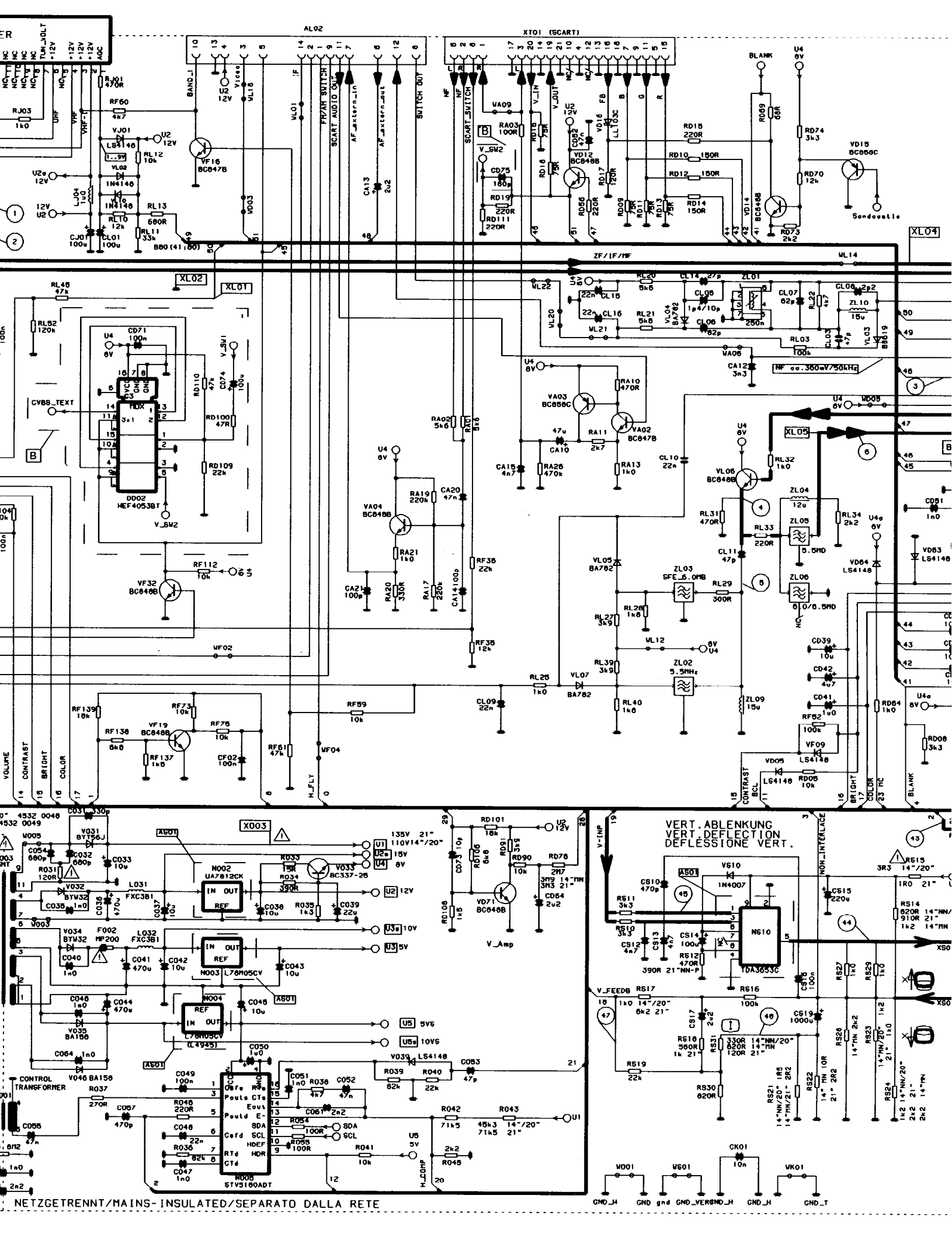
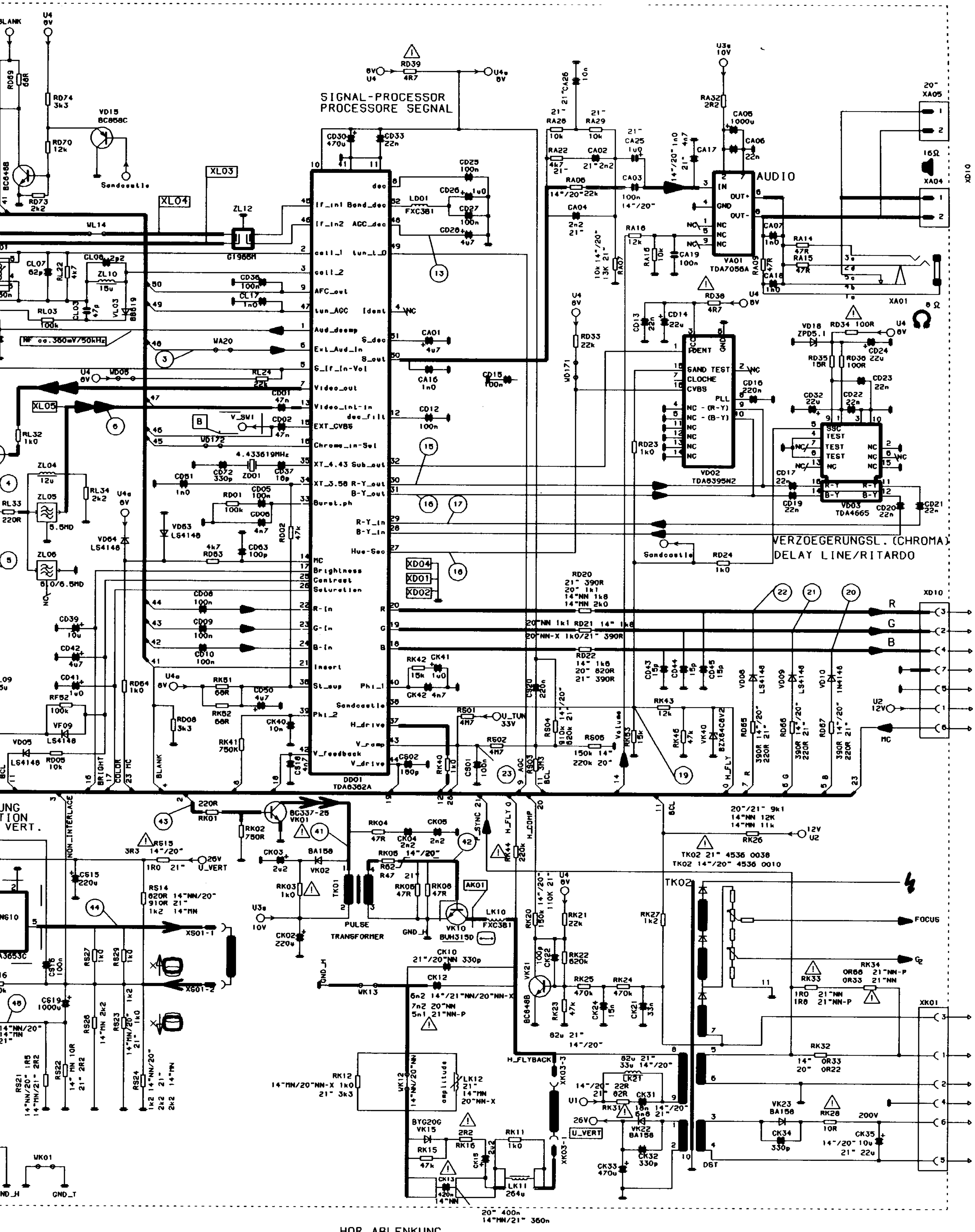
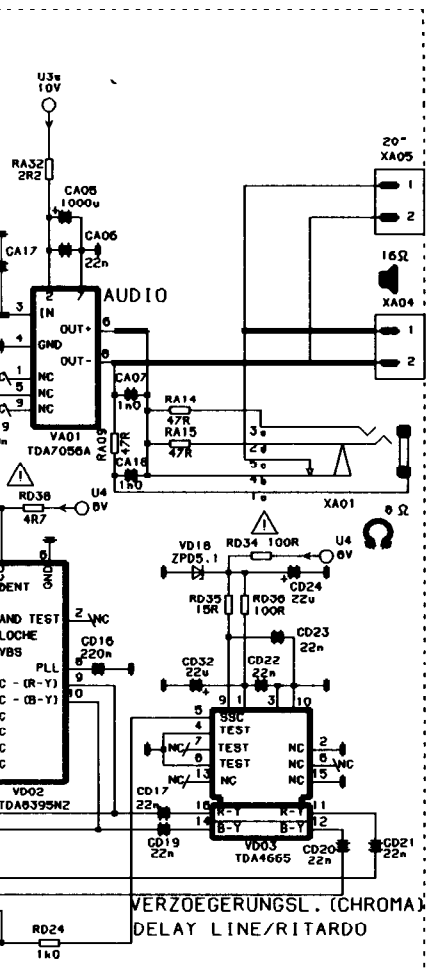

IL/SWITCH MODE /CIRC.ALIMENTAZIONE
T003 14"/20" 4532 0048
T003 21" 4532 0049
X003
X008
10.0V...14.5V
>2.4V SICHERUNGSBETR
OVERLOAD MODE
<1V NORMAL
300V
F1.6A 21"
F1.25A 14"/20"
CONTROL TRANSFORMER
T001
N001 TEA2164SH
N002 UA7812CK
N003 L78H05CV
N004 L78H05CV (L4945)
N005 STV5160ADT
NETZVERBUNDEN/MAINS-CONNECTED/COLLEGATO ALLA RETE
NETZGETRENNT/MAINS-INSULATED/SEPARATI

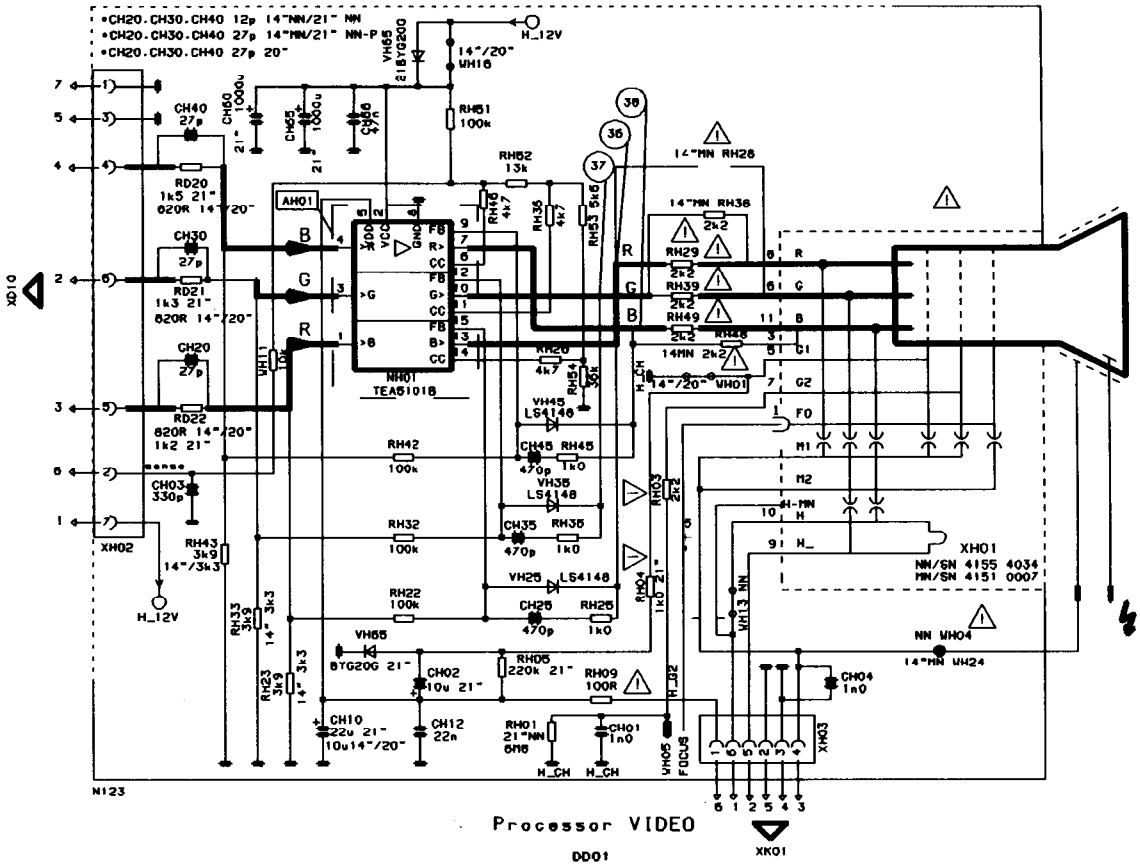

TUNER
AJ01 TUNER 3400KHC
BEDIENTEIL/
OPERATING UNIT
PROCESSOR
UNITA' COMANDO
PROCESSORE
DF02
SDA5252MC31
SDA5222
SF01
4xTAKT_SWITCH
TFMS5380 IR-RECEIVER NF03
DF01 SLA24C08P ST24W08
16.0MHz
P16 TUNING_VOLTAGE
P34 AFC
P21 COLOR
P20 BRIGHT
P19 CONTRAST
P22 VOLUME
P18 V_AMP
P17 AGC
P33 SCART-SWITCH
P5 AV1-SWITCH
NTSC-SWITCH
IDENT
CVBS
CVBS_TEXT
DD02 HEF4053BT
MUX
B40 (0:40)
SCHALTNETZTEIL/SWITCH MODE /CIRC.ALIMENTAZIONE
220V-240V
MAINS_SWITCH
FUSE T2A5
10.0V...14.5V
>2.4V SICHERUNGSBETR.
OVERLOAD MODE
<1V NORMAL
300V
N001 TEA2164SH
BUF405AFI
T003 SMT
T003 14"/20" 4532 0048
T003 21" 4532 0049
CONTROL TRANSFORMER
T001
ENTMAGNETISIERUNG
DEGAUSSING COIL
BOBINA SMAGNETIZZAZIONE
NETZVERBUNDEN/MAINS-CONNECTED/COLLEGATO ALLA RETE ; NETZGETRENNT/MAINS-INSUL
N122

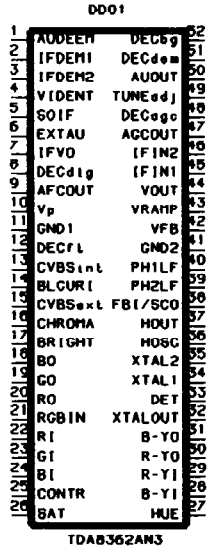

AL02
XT01 (SCART)
XL01
XL02
XL04
XL05
ZF/IF/MF
VERT. ABLENKUNG
VERT. DEFLECTION
DEFLESSIONE VERT.
TDA3653C
STV9160ADT
HEF4053BT
BC848B
BC858C
BA782
LS4148
CONTROL TRANSFORMER
NETZGETRENNT/MAINS-INSULATED/SEPARATO DALLA RETE



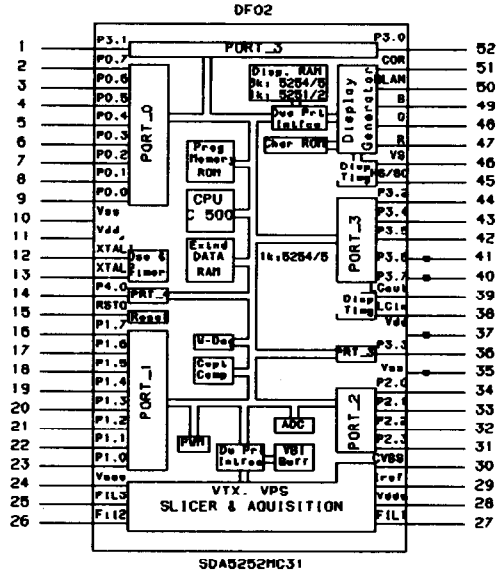
SIGNAL-PROCESSOR
PROCESSORE SEGNAL
DD01
TDA8362A
AUDIO
VA01
TDA7056A
VD02
TDA8395N2
VD03
TDA4665
VERZOEGERUNGSL. (CHROMA)
DELAY LINE/RITARDO
XL03
XL04
XL05
ZL12
G1966H
4.433619MHz
Z001
XA05
XA04
XA01
XD10
XK01
TK01
PULSE
TRANSFORMER
TK02
TK02 21" 4536 0038
TK02 14"/20" 4536 0010
FOCUS
VK10
BUH315D
VK21
BC848B
VK01
BC337-25
VD15
BC858C
XS01-1
XS01-2
H_FLYBACK
U_VERT
GND_H
GND_T
DST
HOR. ABLENKUNG

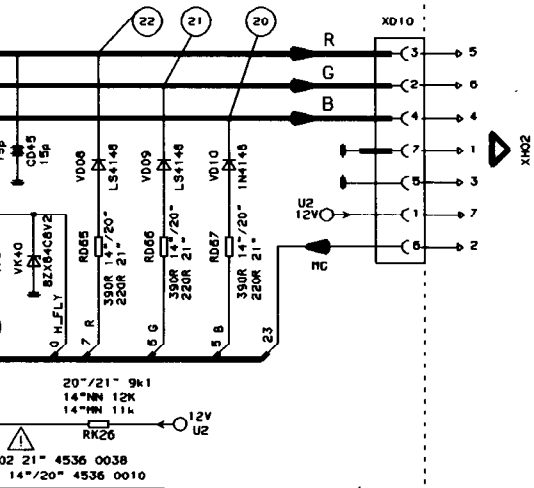


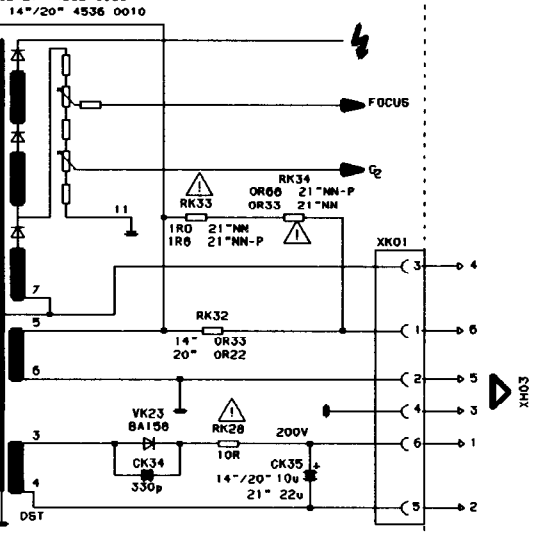




Operating-Unit
Processor-Symbol







(GB) Service adjustments

Note! Before other adjustments U1 voltage must be adjusted.
If the set cannot be switched on with the number buttons, please see under "RC Mode" (Service menu 2).
Wait! Allow the TV set to be switched on for 10 minutes before any adjustment.

Service mode

Select the service mode by pressing the Mute, OK (M) and TV buttons in sequence on the remote control unit. Use the blue button to call up the Service Menu 2, 3 (or Service Menu 1 again).

Cursor button ▲ or ▼ = To select required adjustment
Cursor button ◀ or ▶ = To adjust it
OK (M) button = To store the adjustment into the memory.
TV button = To return to normal TV mode.

Service adjustments which are made in service mode

Display	Note
	Service Menu 1
Start APS	YES = APS; search function will be run automatically when the set is switched on for the first time and stores all stations into the memory.
V-Amplitude	Adjust the bottom edge.
H-Shift	Stereo set: Adjust centre of the test picture horizontaly to a centered position. Mono set: Adjust centre of the test horizontal to a centered position with RK 45.
U1	U1 operating voltage, see adj. "U1 voltage".
AGC	See adjustment "AGC".
	Service Menu 2
Set Standard	Select required standard.
APS Standard	Set to approriate television standard.
RC Mode	(Remote Control), select the other remote control units.
Front AV	YES, if front AV socket is available.
Text Characters	Teletext character sets: OFF, EU+CS, EU+TR, East 1, East 2
	Service Menu 3 (only with stereo sets)
Equalizer	YES/NO ; YES = on
C4 Bit	Yes: Switches back to FM-sound, if FM-sound ≠ Nicam sound. No: Switches Nicam during Nicam-transmission.
Loudness	YES/NO
AVC	Yes: Supresses sound cracks.
Carrier Mute	Yes: Switches sound off, if carrier missing.
Hi-Dev	Displays "HDM" line in the audio menu, use in case of overmodulation of sound.

Adjustment U1 voltage

1. Set the contrast and brightness to minimum.
2. Connect test point XF01 (chassis board) to ground.
3. Go to service menu 1 (see service mode).
4. Use cursor button ▲ or ▼ to select U1-adjustment.
5. Adjust with cursor button ◀ or ▶
   110V ± 1V 14" (Philips/Samtel) and 20" (Videocolor)
   135V ± 1V 21" (Philips)
   150V ± 1V 25" and 28" (Videocolor)
6. Use OK (M) memory button to store the value into the memory.
7. Remove XF01/ground connection.
8. Return to normal TV mode by pressing the TV button.

AGC

1. Connect test point XF01 (Chassis board) to ground.
2. Feed in RF signal without sound carrier with 72 dBµV (= 4mV) on a medium UHF channel via the aerial input.
3. Go to service menu 1 (see service mode).
4. Use cursor button ▲ or ▼ to select AGC adjustment.
5. Connect oscilloscope (Bandwidth > 50 MHz) to the tuner's IF output (test point XL03 or XL04) and to ground (XL02).
6. Use cursor button ◀ and ▶ to adjust 350 mVpp +0/-50mV with reference to the signal's synchronizing peaks.
7. Use OK (M) memory button to store the value into the memory.
8. Remove XF01/ground connection.
9. Return to normal TV mode by pressing the TV button.

Other service adjustments

Horizontal amplitude

Adjust 90° CRT's horizontal amplitude with coil LK 12.
Adjust 110° SQ - and FST - CRT's with resistor RK66.

Vertical position

Adjust vertical position by severing resistor RS24, and/or RS14.

Focus

Use focus adjuster TKO2 (at horizontal transformer) to set the focus to optimum sharpness.

Cushion

Adjust 110° SQ and FST CRT's with resistor RK60.

G2 and colour temperature

1. Set the UG2 adjustment (the lower adjustment at horizontal transformer) to its middle position.
2. Select the IDEAL picture setting and switch the set to AV programme number or other black screen picture.
3. Using the oscilloscope with 100:1 probe determine the colour cathode with the highest black level measuring pulse at IC NH01, pins 9, 12 and 15.
4. Adjust the highest measuring pulse to 150V (measured against ground).

AFC

1. Feed in symmetric IF signal (ca. 0,8 Vpp) by means of 4:1 transmitter at test points XL 03 and XL 04. (38,9 MHz for standard BG, DK and 39,5 MHz for standard I)
2. At test point XL 01 (XL 02 to ground) set 3,5 V DC ± 0,5 V with coil ZL 01 (AFC reference).
3. Multistandard set, standard L': After proper BG adjustment select a channel in band 1 (L'-range). Activate standard L in Tuning menu. Feed in symmetric IF signal (ca. 0,8 Vpp) by means of 4:1 transmitter at test points XL 03 and XL 04. (33,9 MHz for standard L') At test point XL 01 (XL 02 to ground) set 3,5 V DC ± 0,5 V with capacitor CL 05.

AFC check

Detune the IF signal to approx. 39 MHz (39,7 MHz, 34 MHz). Then the voltage must drop to approx. 1V.

Sound of multistandard sets (standard BG, DK or standard I)

Make the standard adjustment as follows:
1. RCF remote control unit: Press the PROG button.
   RCN remote control unit: Press the blue MENU button twice.
2. Select the menu line Tuning, Manual tuning.
3. Select STANDARD BG, DK or I with cursor buttons ◀ and ▶.
4. Store the setting by pressing the OK (M) button.
5. Return to normal TV viewing by pressing the TV button.

AM sound (multistandard module)

1. Connect a sweep generator with 30-40 MHz marking to pin 14 of AL-connector.
2. Connect an oscilloscope to pin 11 of AL-connector.
3. Connect a control voltage supply to pin 3 of TDA 9830.
4. L standard: The voltage at pin 09 of AL-connector = 0 V.
   Set the output amplitude to 200 mV by means of the control voltage and keep this value during the adjustment.
   Adjust the amplitude of 34,2 MHz to maximum with ZL 651 and ZL 652.
5. After proper L-adjustment:
   L' standard: The voltage at pin 10 of AL-connector = 12 V.
   Set the output amplitude to 200 mV by means of the control voltage and keep this value during the adjustment.
   Adjust the amplitude of 40,4 MHz to maximum with RL 673.